

REMARKS

The enclosed is responsive to Examiner's final Office Action mailed on April 6, 2006. At the time Examiner mailed the final Office Action claims 1 and 3-29 were pending. By way of the present response Applicants have: 1) amended claims 1, 8, 17, 25 and 29; 2) added no new claims; and 3) cancelled claims 4, 9, and 26. As such, claims 1, 3, 5-8, 10-25, and 27-29 are now pending. No new matter has been added as a result of these amendments. Applicants respectfully request reconsideration of the present application and the allowance of all claims now presented.

Claim Rejections – 35 USC §102

Claims 1, 3-29 stand rejected under 35 U.S.C. 102(e) as being anticipated by Widmer, U.S. Patent No. 6,496,540 (hereinafter "Widmer"). Applicant's independent claims require 1) skew measurement with a first semiconductor chip; and 2) programming a phase relationship and skew adjustment with a second semiconductor chip. These claim elements are distinguishable from the description of U.S. Patent 5,457,718 (hereinafter, "Anderson") which is incorporated by reference by Widmer (see col. 10, lines 1-4).

The "data-retiming" circuit disclosed by Anderson is only suggested as being for implementation on a single semiconductor chip (e.g., "Fig. 1 illustrates a digital circuit for retiming a data input of an integrated circuit chip with respect to a local clock," col. 3 lines 49-50 of Anderson).

The “data-retiming” circuit disclosed by Anderson adjusts the “delay on the input data aligns transitions on RD with the rising edge of CLK. The retiming flip-flop 50 samples RD in the center of the baud interval using the falling edge of CLK. Output DOUT is then synchronous with the local clock CLK” (Anderson col. 3, lines 63-67). Thus, Widmer is limited to skew compensation that aligns the phases and does not disclose a programmable phase relationship/delay that is utilized in skew adjustment.

Accordingly, Applicant respectfully submits that independent claims 1, 8, 17, and 25 are not anticipated by Widmer under 35 U.S.C. 102(e) and respectfully requests the withdrawal of the rejection of the claims. Additionally, claims 3, 5-7, 10-16, 18-24, and 27-29 are dependent on claims 1, 8, 17, and 25 respectively and are allowable for at least the same reason.

Claims 1, 3-29 stand rejected under 35 U.S.C. 102(b) as being unpatentable by Nelson et al, U.S. Patent No. 5,467,040 (hereinafter “Nelson”). Applicant’s claims recite skew measurement with a first semiconductor chip and skew adjustment with a second semiconductor chip.

The Office Action contends that Nelson discloses use of plural semiconductor chips in implementation of skew measurement and compensation citing an example at Nelson, col. 3 line 36. The example cited by the Office Action is a description of the limitations of a prior art technique of introducing delay into a circuit to compensate for skew: “foil path select tuning

cannot be implemented in a single IC package due to the need to make a mechanical connection.” (Nelson col. 3 line 36). Nelson describes this prior art technique as a shortcoming (Nelson col. 3 line 40), not easily automatable and risks damage (Nelson col. 3, lines 32-33), and states that it is an object of the disclosed invention to provide a “means for adjusting skew which can be self-contained within a single IC package” (Nelson col. 3 lines 50-52). Thus, Nelson does not describe two semiconductor chips wherein skew measurement is performed with a first semiconductor chip and skew adjustment with a second semiconductor chip.

Accordingly, Applicant respectfully submits that independent claims 1, 8, 17, and 25 are not anticipated by Nelson under 35 U.S.C. 102(b) and respectfully requests the withdrawal of the rejection of the claims. Additionally, claims 3, 5-7, 10-16, 18-24, and 27-29 are dependent on claims 1, 8, 17, and 25 respectively and are allowable for at least the same reason.

Claim Rejections – 35 USC §103

Claims 1, 3-29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Widmer and Nelson. Widmer discloses a system for coding parallel data for serial transmission while maintaining baud rate by incorporating (via Anderson) a digital filter that aligns skewed signals implemented within a single semiconductor chip. Nelson discloses a method for adjusting the skew associated with a single distributed clock signal by

measuring a test signal injected into the clock input port implemented within a single semiconductor chip. The combination of Widmer and Nelson describes a method for aligning skewed signals via programmable skew compensation circuitry within a single semiconductor chip. Nelson teaches away from the use of two semiconductor chips. It is respectfully submitted that the combination of Widmer with Nelson does not describe what claim 1 requires. Specifically, the combination does not describe:

measuring a skew between a data signal and a clock signal at a receiving side of a serial link implemented with a first semiconductor chip, programming a phase relationship into a second semiconductor chip, and adjusting a phase relationship between said data signal and said clock signal to reduce said skew, wherein said adjusting of said phase relationship occurs at a transmitting side of said serial link implemented with said second semiconductor chip.

Likewise, the combination of Widmer with Nelson does not describe claims 8, 17, and 25 for at least the same reason as claim 1. Claims 3, 5-7, 10-16, 18-24, and 27-29 are dependent on claims 1, 8, 17, and 25 respectively and are allowable for at least the same reason.

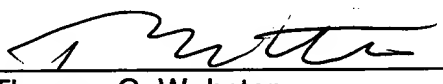
CONCLUSION

Applicants respectfully submit that all rejections have been overcome and that all pending claims are in condition for allowance. Applicant respectfully submits that all of the Applicant's claims are patentable, and respectfully requests the allowance of same.

If there are any additional charges, please charge them to our Deposit Account Number 02-2666. If a telephone conference would facilitate the prosecution of this application, Examiner is invited to contact Thomas C. Webster at (408) 720-8300.

Respectfully Submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 6/6, 2006


Thomas C. Webster
Reg. No.: 46,154

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300